IFT 301 ASSIGNMENT

No. 1

import matplotlib.pyplot as plt

categories = ['Spinach', 'Sausage', 'Prawns', 'Pineapple', 'Mushroom']

proportions = [0.25, 0.20, 0.10, 0.25, 0.20]

plt.barh(categories, proportions, color='purple')

plt.xlabel('Proportion of Total')

plt. ylabel('categories')

plt.title('Bar Chart of Proportions')

plt.show()

No. 2

import matplotlib.pyplot as plt

#Data

female\_breath = [22.22, 30.57, 22.39, 26.90, 36.85, 27.33, 29.55, 13.87, 34.66]

male\_breath = [60.75, 67.41, 42.19, 59.74, 52.61, 43.57, 73.27, 59.09, 51.15, 58.32]

# Histogram (ignoring sex)

plt.hist(female\_breath + male\_breath, bins=10, color='gray', edgecolor='black')

plt.title('Histogram of Breath Holding Times')

plt.xlabel('Time (seconds)')

plt.ylabel('Frequency')

plt.show()

# Side-by-side Dot Plot

plt.scatter(female\_breath, ['Female'] \* len(female\_breath), color='blue', label='Female')

plt.scatter(male\_breath, ['Male'] \* len(male\_breath), color='red', label='Male')

plt.title('Dot Plot of Breath Holding Times')

plt.xlabel('Time (seconds)')

plt.legend()

plt.show()

No. 3

# Data

with\_music = [304, 257, 174, 214, 69, 517, 387, 47, 157, 532, 308, 317, 286, 299, 206, 278, 188]

without\_music = [292, 270, 47, 288, 524, 292, 364, 516, 287, 75, 282, 149, 274, 319, 215, 3, 324, 2, 128, 219, 94, 164]

# Histograms

plt.hist(with\_music, bins=10, alpha=0.5, label='With Music', color='blue', edgecolor='black')

plt.hist(without\_music, bins=10, alpha=0.5, label='Without Music', color='orange', edgecolor='black')

plt.title('Histogram of Plant Growth')

plt.xlabel('Growth (mm)')

plt.ylabel('Frequency')

plt.legend()

plt.show()

# Dot Plot

plt.scatter(with\_music, ['With Music'] \* len(with\_music), color='blue', label='With Music')

plt.scatter(without\_music, ['Without Music'] \* len(without\_music), color='orange', label='Without Music')

plt.title('Dot Plot of Plant Growth')

plt.xlabel('Growth (mm)')

plt.legend()

plt.show()